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HAROLD LEGGETT, Ph.D.
SECRETARY

State of Louisiana
DEPARTMENT OF ENVIRONMENTAL QUALITY
ENVIRONMENTAL SERVICES

Certified Mail No.

Agency Interest (AI) No. 2416
Activity No. PER20080005

Mr. Louis M. Frey, III
Vice President / General Manager - Donaldsonville
CF Industries, Inc.
P.O. Box 468
Donaldsonville, LA 70346

RE: Prevention of Significant Deterioration (PSD) Permit, PSD-LA-744, CF Industries Inc -
Donaldsonville Nitrogen Complex, CF Industries Inc, Donaldsonville, Ascension Parish,
Louisiana

Dear Mr. Frey:

Enclosed is your permit, PSD-LA-744. Construction of the proposed project is not allowed until such time as the corresponding Part 70 Operating Permit is issued.

Should you have any questions, contact Kermit Wittenburg of the Air Permits Division at (225) 219-3008.

Sincerely,

Cheryl Sonnier Nolan
Assistant Secretary

Date

CSN:KCW

c: US EPA Region VI

Agency Interest No. 2416

PSD-LA-744

**AUTHORIZATION TO CONSTRUCT AND OPERATE A MODIFIED MAJOR SOURCE
PURSUANT TO THE PREVENTION OF SIGNIFICANT DETERIORATION
REGULATIONS IN LOUISIANA ENVIRONMENTAL REGULATORY CODE,
LAC 33:III.509**

In accordance with the provisions of the Louisiana Environmental Regulatory Code, LAC 33:III.509,

CF Industries Inc
PO Box 468
Donaldsonville, LA 70346-0468

is authorized to construct the Energy Retrofit Project at the CF Industries Inc - Donaldsonville Nitrogen Complex near

39018 Hwy 3089
(3 Mi from Sunshine Bridge)
Donaldsonville, LA 70346

subject to the emissions limitations, monitoring requirements, and other conditions set forth hereinafter.

This permit and authorization to construct shall expire at midnight on _____, 2010, unless physical on site construction has begun by such date, or binding agreements or contractual obligations to undertake a program of construction of the source are entered into by such date.

Signed this _____ day of _____, 2009.

Cheryl Sonnier Nolan
Assistant Secretary
Office of Environmental Services
Louisiana Department of Environmental Quality

BRIEFING SHEET

CF Industries Inc - Donaldsonville Nitrogen Complex

Agency Interest No.: 2416

CF Industries Inc

Donaldsonville, Ascension Parish, Louisiana

PSD-LA-744

PURPOSE

The facility will implement an Energy Retrofit Project of the No. 1 & 2 Ammonia Plants, similar to those previously authorized for the No. 3 & 4 Ammonia Plants. Changes to the No. 3 & 4 Ammonia Plants have been previously authorized but are not completed yet.

RECOMMENDATION

Approval of the proposed construction and issuance of a permit.

REVIEWING AGENCY

Louisiana Department of Environmental Quality, Office of Environmental Services, Air Permits Division

PROJECT DESCRIPTION

The facility will implement an Energy Retrofit Project of the No. 1 & 2 Ammonia Plants which will allow an increase in the daily production of the No. 1 & 2 Ammonia Plants up to 1620 tons per day. CF Industries has determined that the previously permitted changes from the energy retrofit project for the No. 3 & 4 Ammonia Plants will allow for the production to be increased from 1710 up to 1785 tpd. This will raise the total ammonia production to 6810 tpd.

CF industries considers the energy retrofit projects for all four ammonia plants to be one project. As such, the changes will increase the carbon monoxide emissions above the PSD threshold.

Estimated emissions, in tons per year, are as follows:

<u>Pollutant</u>	<u>Baseline Actual Emissions</u>	<u>Projected Actual Emissions/PTE</u>	<u>Contemporaneous Changes</u>	<u>Net Emissions Increase</u>	<u>PSD de minimis</u>	<u>Review required?</u>
PM ₁₀	98.54	111.65	-	13.11	15	no
SO ₂	7.76	8.78	-	1.02	40	no
NO _x	2883.97	2852.10	-	-31.87	25	no
CO	1105.14	1277.38	-	172.24	100	yes
VOC	169.66	186.80	-	17.14	25	no

TYPE OF REVIEW

Carbon monoxide (CO) emissions from the proposed modification will be above PSD significance levels. Therefore, the requested permit was reviewed in accordance with PSD regulations for CO emissions. Emissions of LAC 33:III.Chapter 51-regulated toxic air pollutants (TAP) have been reviewed pursuant to the requirements of the Louisiana Air Quality Regulations.

BRIEFING SHEET

CF Industries Inc - Donaldsonville Nitrogen Complex
Agency Interest No.: 2416
CF Industries Inc
Donaldsonville, Ascension Parish, Louisiana
PSD-LA-744

BEST AVAILABLE CONTROL TECHNOLOGY

CO emissions are above PSD significance levels and must undergo PSD analyses. The selection of control technology was based on the BACT analysis using a "top down" approach and did not include consideration of control of toxic materials.

For the No. 1, 2, 3 & 4 Ammonia Reformers, optimum combustion control and the use of clean burning fuels minimize carbon monoxide emissions that occur as a result of incomplete combustion. BACT for CO is the use of natural gas, (which is the primary chemical used in an ammonia reformer to create ammonia) to limit CO emissions.

AIR QUALITY IMPACT ANALYSIS

Prevention of Significant Deterioration regulations require an analysis of existing air quality for those pollutants emitted in significant amounts from a proposed modification.

The US EPA American Meteorological Society Regulatory Model (AERMOD) modeling indicates maximum ground level concentrations of CO are below the ambient significance levels and preconstruction monitoring exemption levels. Therefore, no preconstruction monitoring, increment analysis, or refined modeling is required for these pollutants.

ADDITIONAL IMPACTS

Soils, vegetation, and visibility will not be adversely impacted by the proposed facility, nor will any Class I area be affected. The project will not result in any significant secondary growth effects. No new permanent jobs will be created.

PROCESSING TIME

Application Dated:	October 29, 2008
Application Received:	October 29, 2008
Effective Completeness Date:	December 30, 2008

PUBLIC NOTICE

A notice requesting public comment on the proposed project was published in *The Advocate*, Baton Rouge, Louisiana, on <<Date>>, 2009; and in <<Local Paper>>, <<City>>, Louisiana, on <<Date>>, 2009. Copies of the public notice were also mailed to individuals who have requested to be placed on the mailing list maintained by the Office of Environmental Services on <<Date>>, 2009. A proposed permit was also submitted to U.S. EPA Region VI on <<Date>>, 2009. All comments will be considered prior to a final permit decision.

PRELIMINARY DETERMINATION SUMMARY

CF Industries Inc - Donaldsonville Nitrogen Complex

Agency Interest No.: 2416

CF Industries Inc

Donaldsonville, Ascension Parish, Louisiana

PSD-LA-744

December 30, 2008

I. APPLICANT

CF Industries Inc., Donaldsonville Nitrogen Complex

PO Box 468

Donaldsonville, LA 70346-0468

II. LOCATION

CF Industries Inc - Donaldsonville Nitrogen Complex is located at 39018 Hwy 3089 (3 Mi from Sunshine Bridge), Donaldsonville, Louisiana. The approximate UTM coordinates are 696.9 kilometers East, 3331.3 kilometers North, Zone 15.

III. PROJECT DESCRIPTION

The facility will implement an Energy Retrofit Project of the No. 1, 2, 3 & 4 Ammonia Plants. The purpose of the project is to reduce the overall energy consumption of the Ammonia Complexes I and II by 0.35 MMBtu/ton and 0.50 MMBtu/ton of ammonia produced per complex respectively.

Major components of this upgrade include:

- replacing the combustion air preheat wheel with a more efficient plate type exchanger,
- replacing a selected number of burners with low NO_x burners,
- upgrading the synthesis gas compressor to a more efficient design,
- adding reaction volume for the ammonia converters, and
- upgrading the heat exchangers and flash vessels to improve the energy integration at a higher production capacity
- Upgrading the air compressor turbine

The energy retrofit project will result in increased ammonia production, which will create associated emission increases from the No. 1, 2, 3 & 4 Carbon Dioxide Vents.

The facility will implement a No. 3 Nitric Acid/ No. 2 UAN Project which will increase the capacity of the No. 2 UAN Plant and the No. 3 Nitric Acid Plant.

Estimated emissions, in tons per year, are as follows:

<u>Pollutant</u>	<u>Baseline Actual Emissions</u>	<u>Projected Actual Emissions/PTE</u>	<u>Contemporaneous Changes</u>	<u>Net Emissions Increase</u>	<u>PSD de minimis</u>	<u>Review required?</u>
PM ₁₀	98.54	111.65	-	13.11	15	no
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CO	1105.14	1277.38	-	172.24	100	yes
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PRELIMINARY DETERMINATION SUMMARY

CF Industries Inc - Donaldsonville Nitrogen Complex

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CF Industries Inc

Donaldsonville, Ascension Parish, Louisiana

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December 30, 2008

IV. SOURCE IMPACT ANALYSIS

A proposed net increase in the emission rate of a regulated pollutant above de minimis levels for new major or modified major stationary sources requires review under Prevention of Significant Deterioration regulations, 40 CFR 52.21. PSD review entails the following analyses:

- A. A determination of the Best Available Control Technology (BACT);
- B. An analysis of the existing air quality and a determination of whether or not preconstruction or postconstruction monitoring will be required;
- C. An analysis of the source's impact on total air quality to ensure compliance with the National Ambient Air Quality Standards (NAAQS);
- D. An analysis of the PSD increment consumption;
- E. An analysis of the source related growth impacts;
- F. An analysis of source related growth impacts on soils, vegetation, and visibility;
- G. A Class I Area impact analysis; and
- H. An analysis of the impact of toxic compound emissions.

A. BEST AVAILABLE CONTROL TECHNOLOGY

Under current PSD regulations, an analysis of "top down" BACT is required for the control of each regulated pollutant emitted from a modified major stationary in excess of the specified significant emission rates. The top down approach to the BACT process involves determining the most stringent control technique available for a similar or identical source. If it can be shown that this level of control is infeasible based on technical, environmental, energy, and/or cost considerations, then it is rejected and the next most stringent level of control is determined and similarly evaluated. This process continues until a control level is arrived at which cannot be eliminated for any technical, environmental, or economic reason. A technically feasible control strategy is one that has been demonstrated to function efficiently on identical or similar processes. Additionally, BACT shall not result in emissions of any pollutant which would exceed any applicable standard under 40 CFR Parts 60 and 61.

For this project, BACT analyses are required for CO emissions from the project.

PRELIMINARY DETERMINATION SUMMARY

CF Industries Inc - Donaldsonville Nitrogen Complex

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CF Industries Inc

Donaldsonville, Ascension Parish, Louisiana

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Process Description (Refer to Process Flow Diagrams in application)

Ammonia Production

Ammonia is formed from air, water, and natural gas in a series of process steps.

Initially, air is filtered and compressed to 600 psig, water is clarified and demineralized, and natural gas is desulfurized. Steam and natural gas are reformed in a catalytic reactor furnace to hydrogen and carbon oxides (1500°F, 500 psig, nickel catalyst). Some emissions come from the Ammonia Reformer, mainly from the natural gas firing used to maintain the temperature of the process. Unreacted gases go to the secondary reformer, compressed air is added, and further reaction occurs.

The reformed gases are purified by high and low temperature shift converters, which lower carbon monoxide (CO) levels and generate more hydrogen by converting CO to carbon dioxide (CO₂). Carbon monoxide is reduced by 95% or more across the high and low temperature shift converters. Both the high temperature shift converter and the low temperature shift converter use a catalyst to accomplish the conversion. The facility is in the process of converting all of the low temperature shift converter catalysts to an upgraded catalyst with lower methanol production as previously authorized by LDEQ. The CO₂ is removed from the process gas in an absorber column by passing it through an alkanol amine solution. CO is not very soluble in the liquid, but a small amount present. Most of the unreacted CO remains in the process gas stream leaving the absorber, and is reacted back to methane in the Methanation section. The CO₂ that was not absorbed is also reacted back to methane. Steam strippers remove CO₂ from the alkanol amine solution. When the CO₂ is stripped from the alkanol amine solution, the small amount of CO that is soluble in the alkanol amine solution is also released. This is the source of the CO in the Ammonia Plant Carbon Dioxide Vent. About 80% of the CO₂ produced in the ammonia plants is used as feed for urea production; the rest is vented or sold.

BACT analyses for CO

Source ID – Description (EQT #)

No. 1, 2, 3 & 4 Ammonia Plant Reformers. 1-65, 1-67, 3-75 and 6-75, (EQT0010, EQT0011, EQT0058 and EQT0083)

Potentially Applicable Technology

Good Combustion Practices.

Proper engineering design and operating practices to ensure complete, efficient combustion using natural gas as a clean fuel.

PRELIMINARY DETERMINATION SUMMARY

CF Industries Inc - Donaldsonville Nitrogen Complex

Agency Interest No.: 2416

CF Industries Inc

Donaldsonville, Ascension Parish, Louisiana

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Potentially Applicable Technology

Thermal Oxidation.

Combustible waste gases pass over or around a burner flame into a residence chamber where oxidation of the waste gas is completed. Gases are usually required to be heated to an operating range of 1200 to 2000 F, with a typical residence time of between 0.2 and 2.0 seconds.

To reduce the carbon monoxide from the Primary Reformers would require significant energy and would generate a substantial increase of secondary pollutants. This technology is considered infeasible for the Primary Reformers

Potentially Applicable Technology

Catalytic Oxidation

Efficient burners minimize the formation of CO by providing excess oxygen or by mixing fuel thoroughly with air. Oxidation reaction is promoted by several noble metal-enriched catalysts at high temperature.

Catalytic Oxidizers require high temperature ranges to be efficient. Catalysts are also prone to fouling by water and other compounds. An analysis indicates that Catalytic oxidation for this application would be in the range of approximately \$12,000 per ton of CO removed, which makes this technology economically infeasible.

BACT for Carbon Monoxide from the Ammonia Reformers is determined to be optimum combustion control and the use of clean burning fuels to minimize carbon monoxide emissions that occur as a result of incomplete combustion. BACT for CO is the use of natural gas, (which is the primary chemical used in an ammonia reformer to create ammonia) to limit CO emissions.

Source ID – Description (EQT #)

No. 1, 2, 3 & 4 Carbon Dioxide Vents. 5-65, 4-67, 23-75 and 24-75, (RLP0020, RLP0017, RLP0013 and RLP0014)

Potentially Applicable Technology

Existing Equipment operations

Optimum catalytic conversion of CO to CO₂ in the high and low shift converters to minimize carbon monoxide emissions that occur as a result of incomplete conversion. Continued use of an optimum liquid alkanol amine solution, or other solution to maximize the absorbing of CO₂, while minimizing CO absorption in the CO₂ Absorber.

PRELIMINARY DETERMINATION SUMMARY

CF Industries Inc - Donaldsonville Nitrogen Complex

Agency Interest No.: 2416

CF Industries Inc

Donaldsonville, Ascension Parish, Louisiana

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December 30, 2008

Potentially Applicable Technology

Thermal Oxidation.

Combustible waste gases pass over or around a burner flame into a residence chamber where oxidation of the waste gas is completed. Gases are usually required to be heated to an operating range of 1200 to 2000 F, with a typical residence time of between 0.2 and 2.0 seconds.

To reduce the carbon monoxide from the Carbon Dioxide Vents would require significant energy and would generate a substantial increase of secondary pollutants. This technology is considered infeasible for the Carbon Dioxide Vents.

Potentially Applicable Technology

Catalytic Oxidation

Efficient burners minimize the formation of CO by providing excess oxygen or by mixing fuel thoroughly with air. Oxidation reaction is promoted by several noble metal-enriched catalysts at high temperature.

Catalytic Oxidizers require high temperature ranges to be efficient. Catalysts are also prone to fouling by water and other compounds. An analysis indicates that Catalytic oxidation for this application would be in the range of approximately \$12,000 per ton of CO removed, which makes this technology economically infeasible.

BACT for Carbon Monoxide is determined to be optimum catalytic conversion of CO to CO₂ in the high and low shift converters to minimize carbon monoxide emissions that occur as a result of incomplete conversion, and continued use of an optimum liquid alkanol amine solution, or other solution to maximize the absorbing of CO₂, while minimizing CO absorption in the CO₂ Absorber.

A summary of BACT costs for technologies eliminated for economic reasons is presented in Table I.

B. ANALYSIS OF EXISTING AIR QUALITY

Prevention of Significant Deterioration regulations require an analysis of existing air quality for those pollutants to be emitted in significant amounts from a proposed major modification. CO is the pollutant of concern in this case.

AERMOD modeling of CO emissions from the proposed project indicates that the maximum offsite ground level concentrations of these pollutants will be below their respective PSD significance levels and preconstruction monitoring levels. Therefore, pre-construction monitoring, refined NAAQS modeling, and increment consumption analyses were not required.

PRELIMINARY DETERMINATION SUMMARY

CF Industries Inc - Donaldsonville Nitrogen Complex

Agency Interest No.: 2416

CF Industries Inc

Donaldsonville, Ascension Parish, Louisiana

PSD-LA-744

December 30, 2008

C. NATIONAL AMBIENT AIR QUALITY STANDARDS (NAAQS) ANALYSIS

Because AERMOD modeling analyses indicated concentrations of each pollutant would be below its PSD ambient significance level, refined NAAQS modeling was not required. A summary of the air quality analyses is also presented in Table II.

D. PSD INCREMENT ANALYSIS

PSD Increment Modeling is not required for CO because PSD Increment limits do not exist for CO.

E. SOURCE RELATED GROWTH IMPACTS

Operation of this facility is not expected to have any significant effect on residential growth or industrial/commercial development in the area of the facility. No significant net change in employment, population, or housing will be associated with the project. As a result, there will not be any significant increases in pollutant emissions indirectly associated with CF Industries proposal.

F. SOILS, VEGETATION, AND VISIBILITY IMPACTS

There will be no significant impact on area soils, vegetation, or visibility.

G. CLASS I AREA IMPACTS

Louisiana's Breton Wildlife Refuge, the nearest Class I area, is over 100 kilometers from the site, precluding any significant impact, and CO is not a visibility impacting pollutant.

H. TOXIC EMISSIONS IMPACT

The selection of control technology based on the BACT analysis did not include consideration of control of toxic emissions.

V. CONCLUSION

The Air Permits Division has made a preliminary determination to approve the construction of the Energy Retrofit Project at the Donaldsonville Nitrogen Complex near Donaldsonville in Ascension Parish, Louisiana, subject to the attached specific and general conditions. In the event of a discrepancy in the provisions found in the application and those in this Preliminary Determination Summary, the Preliminary Determination Summary shall prevail.

SPECIFIC CONDITIONS

CF Industries Inc - Donaldsonville Nitrogen Complex
Agency Interest No.: 2416
CF Industries Inc
Donaldsonville, Ascension Parish, Louisiana
PSD-LA-744

1. The permittee is authorized to operate in conformity with the specifications submitted to the Louisiana Department of Environmental Quality (LDEQ) as analyzed in LDEQ's document entitled "Preliminary Determination Summary" dated December 30, 2008, and subject to the following emissions limitations and other specified conditions. Specifications submitted are contained in the application and Emission Inventory Questionnaire dated October 29, 2008.

ID No.	Description		CO
EQT0010 1-65	No. 1 Ammonia Plant Reformer	Max lb/hr TPY	303.47 301.29
EQT0011 1-67	No. 2 Ammonia Plant Reformer	Max lb/hr TPY	303.47 301.29
EQT0058 3-75	No. 3 Ammonia Plant Reformer	Max lb/hr TPY	333.80 324.90
EQT0083 6-75	No. 4 Ammonia Plant Reformer	Max lb/hr TPY	333.80 324.90
RLP0013 23-75	No. 3 Ammonia Plant Carbon Dioxide Vent	Max lb/hr TPY	5.59 6.55
RLP0014 24-75	No. 4 Ammonia Plant Carbon Dioxide Vent	Max lb/hr TPY	5.59 6.55
RLP0017 4-67	No. 2 Ammonia Plant Carbon Dioxide Vent	Max lb/hr TPY	5.08 5.95
RLP0020 5-65	No. 1 Ammonia Plant Carbon Dioxide Vent	Max lb/hr TPY	5.08 5.95
			NO _x

2. Specific Condition No. 2 for all the Ammonia Reformers: BACT for Carbon Monoxide from the Ammonia Reformers is determined to be optimum combustion control and the use of clean burning fuels to minimize carbon monoxide emissions that occur as a result of incomplete combustion. BACT for CO is the use of natural gas, (which is the primary chemical used in an ammonia reformer to create ammonia) to limit CO emissions.
3. Specific Condition No. 3 for all Carbon Dioxide Vents: BACT for Carbon Monoxide is determined to be optimum catalytic conversion of CO to CO₂ in the high and low shift converters to minimize carbon monoxide emissions that occur as a result of incomplete conversion, and continued use of an optimum liquid alkanol amine solution, or other solution to maximize the absorbing of CO₂, while minimizing CO absorption in the CO₂ Absorber.

**LOUISIANA AIR EMISSION PERMIT
GENERAL CONDITIONS**

- I. This permit is issued on the basis of the emissions reported in the application for approval of emissions and in no way guarantees that the design scheme presented will be capable of controlling the emissions to the type and quantities stated. Failure to install, properly operate and/or maintain all proposed control measures and/or equipment as specified in the application and supplemental information shall be considered a violation of the permit and LAC 33:III.501. If the emissions are determined to be greater than those allowed by the permit (e.g. during the shakedown period for new or modified equipment) or if proposed control measures and/or equipment are not installed or do not perform according to design efficiency, an application to modify the permit must be submitted. All terms and conditions of this permit shall remain in effect unless and until revised by the permitting authority.
- II. The permittee is subject to all applicable provisions of the Louisiana Air Quality Regulations. Violation of the terms and conditions of the permit constitutes a violation of these regulations.
- III. The Emission Rates for Criteria Pollutants, Emission Rates for TAP/HAP & Other Pollutants, and Specific Requirements sections or, where included, Emission Inventory Questionnaire sheets establish the emission limitations and are a part of the permit. Any operating limitations are noted in the Specific Requirements or, where included, Tables 2 and 3 of the permit. The synopsis is based on the application and Emission Inventory Questionnaire dated October 29, 2008.
- IV. This permit shall become invalid, for the sources not constructed, if:
 - A. Construction is not commenced, or binding agreements or contractual obligations to undertake a program of construction of the project are not entered into, within two (2) years (18 months for PSD permits) after issuance of this permit, or;
 - B. If construction is discontinued for a period of two (2) years (18 months for PSD permits) or more.

The administrative authority may extend this time period upon a satisfactory showing that an extension is justified.

This provision does not apply to the time period between construction of the approved phases of a phased construction project. However, each phase must commence construction within two (2) years (18 months for PSD permits) of its projected and approved commencement date.
- V. The permittee shall submit semiannual reports of progress outlining the status of construction, noting any design changes, modifications or alterations in the construction schedule which have or may have an effect on the emission rates or ambient air quality levels. These reports shall continue to be submitted until such time as construction is certified as being complete. Furthermore, for any significant change in the design, prior approval shall be obtained from the Office of Environmental Services, Air Permits Division.
- VI. The permittee shall notify the Department of Environmental Quality, Office of Environmental Services, Air Permits Division within ten (10) calendar days from the date that construction is certified as complete and the estimated date of start-up of operation. The appropriate Regional Office shall also be so notified within the same time frame.

**LOUISIANA AIR EMISSION PERMIT
GENERAL CONDITIONS**

- VII. Any emissions testing performed for purposes of demonstrating compliance with the limitations set forth in paragraph III shall be conducted in accordance with the methods described in the Specific Conditions and, where included, Tables 1, 2, 3, 4, and 5 of this permit. Any deviation from or modification of the methods used for testing shall have prior approval from the Office of Environmental Assessment, Air Quality Assessment Division.
- VIII. The emission testing described in paragraph VII above, or established in the specific conditions of this permit, shall be conducted within sixty (60) days after achieving normal production rate or after the end of the shakedown period, but in no event later than 180 days after initial start-up (or restart-up after modification). The Office of Environmental Assessment, Air Quality Assessment Division shall be notified at least (30) days prior to testing and shall be given the opportunity to conduct a pretest meeting and observe the emission testing. The test results shall be submitted to the Air Quality Assessment Division within sixty (60) days after the complete testing. As required by LAC 33:III.913, the permittee shall provide necessary sampling ports in stacks or ducts and such other safe and proper sampling and testing facilities for proper determination of the emission limits.
- IX. The permittee shall, within 180 days after start-up and shakedown of each project or unit, report to the Office of Environmental Compliance, Enforcement Division any significant difference in operating emission rates as compared to those limitations specified in paragraph III. This report shall also include, but not be limited to, malfunctions and upsets. A permit modification shall be submitted, if necessary, as required in Condition I.
- X. The permittee shall retain records of all information resulting from monitoring activities and information indicating operating parameters as specified in the specific conditions of this permit for a minimum of at least five (5) years.
- XI. If for any reason the permittee does not comply with, or will not be able to comply with, the emission limitations specified in this permit, the permittee shall provide the Office of Environmental Compliance, Enforcement Division with a written report as specified below.
- A. A written report shall be submitted within 7 days of any emission in excess of permit requirements by an amount greater than the Reportable Quantity established for that pollutant in LAC 33.I.Chapter 39.
 - B. A written report shall be submitted within 7 days of the initial occurrence of any emission in excess of permit requirements, regardless of the amount, where such emission occurs over a period of seven days or longer.
 - C. A written report shall be submitted quarterly to address all emission limitation exceedances not included in paragraphs A or B above. The schedule for submittal of quarterly reports shall be no later than the dates specified below for any emission limitation exceedances occurring during the corresponding specified calendar quarter:
 - 1. Report by June 30 to cover January through March
 - 2. Report by September 30 to cover April through June
 - 3. Report by December 31 to cover July through September
 - 4. Report by March 31 to cover October through December

**LOUISIANA AIR EMISSION PERMIT
GENERAL CONDITIONS**

D. Each report submitted in accordance with this condition shall contain the following information:

1. Description of noncomplying emission(s);
2. Cause of noncompliance;
3. Anticipated time the noncompliance is expected to continue, or if corrected, the duration of the period of noncompliance;
4. Steps taken by the permittee to reduce and eliminate the noncomplying emissions; and
5. Steps taken by the permittee to prevent recurrences of the noncomplying emissions.

E. Any written report submitted in advance of the timeframes specified above, in accordance with an applicable regulation, may serve to meet the reporting requirements of this condition provided all information specified above is included. For Part 70 sources, reports submitted in accordance with Part 70 General Condition R shall serve to meet the requirements of this condition provided all specified information is included. Reporting under this condition does not relieve the permittee from the reporting requirements of any applicable regulation, including LAC 33.I.Chapter 39, LAC 33.III.Chapter 9, and LAC 33.III.5107.

XII. Permittee shall allow the authorized officers and employees of the Department of Environmental Quality, at all reasonable times and upon presentation of identification, to:

- A. Enter upon the permittee's premises where regulated facilities are located, regulated activities are conducted or where records required under this permit are kept;
- B. Have access to and copy any records that are required to be kept under the terms and conditions of this permit, the Louisiana Air Quality Regulations, or the Act;
- C. Inspect any facilities, equipment (including monitoring methods and an operation and maintenance inspection), or operations regulated under this permit; and
- D. Sample or monitor, for the purpose of assuring compliance with this permit or as otherwise authorized by the Act or regulations adopted thereunder, any substances or parameters at any location.

XIII. If samples are taken under Section XII.D. above, the officer or employee obtaining such samples shall give the owner, operator or agent in charge a receipt describing the sample obtained. If requested prior to leaving the premises, a portion of each sample equal in volume or weight to the portion retained shall be given to the owner, operator or agent in charge. If an analysis is made of such samples, a copy of the analysis shall be furnished promptly to the owner, operator or agency in charge.

XIV. The permittee shall allow authorized officers and employees of the Department of Environmental Quality, upon presentation of identification, to enter upon the permittee's premises to investigate potential or alleged violations of the Act or the rules and regulations

**LOUISIANA AIR EMISSION PERMIT
GENERAL CONDITIONS**

adopted thereunder. In such investigations, the permittee shall be notified at the time entrance is requested of the nature of the suspected violation. Inspections under this subsection shall be limited to the aspects of alleged violations. However, this shall not in any way preclude prosecution of all violations found.

- XV. The permittee shall comply with the reporting requirements specified under LAC 33:III.919 as well as notification requirements specified under LAC 33:III.927.
- XVI. In the event of any change in ownership of the source described in this permit, the permittee and the succeeding owner shall notify the Office of Environmental Services in accordance with LAC 33:I.Chapter 19.Facility Name and Ownership/Operator Changes Process.
- XVII. Very small emissions to the air resulting from routine operations, that are predictable, expected, periodic, and quantifiable and that are submitted by the permitted facility and approved by the Air Permits Division are considered authorized discharges. Approved activities are noted in the General Condition XVII Activities List of this permit. To be approved as an authorized discharge, these very small releases must:
1. Generally be less than 5 TPY
 2. Be less than the minimum emission rate (MER)
 3. Be scheduled daily, weekly, monthly, etc., or
 4. Be necessary prior to plant startup or after shutdown [line or compressor pressuring/depressuring for example]

These releases are not included in the permit totals because they are small and will have an insignificant impact on air quality. This general condition does not authorize the maintenance of a nuisance, or a danger to public health and safety. The permitted facility must comply with all applicable requirements, including release reporting under LAC 33:I.3901.

- XVIII. Provisions of this permit may be appealed in writing pursuant to La. R.S. 30:2024(A) within 30 days from receipt of the permit. Only those provisions specifically appealed will be suspended by a request for hearing, unless the secretary or the assistant secretary elects to suspend other provisions as well. Construction cannot proceed except as specifically approved by the secretary or assistant secretary. A request for hearing must be sent to the following:

Attention: Office of the Secretary, Legal Services Division
La. Dept. of Environmental Quality
Post Office Box 4302
Baton Rouge, Louisiana 70821-4302

- XIX. For Part 70 sources, certain Part 70 general conditions may duplicate or conflict with state general conditions. To the extent that any Part 70 conditions conflict with state general conditions, then the Part 70 general conditions control. To the extent that any Part 70 general conditions duplicate any state general conditions, then such state and Part 70 provisions will be enforced as if there is only one condition rather than two conditions.

TABLE I: BACT COST SUMMARY

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Control Alternatives		Availability/ Feasibility	Negative Impacts (a)	Control Efficiency	Emissions Reduction (TPY)	Capital Cost (\$)	Annualized Cost (\$)	Cost Effectiveness (\$/ton)	Notes
Source ID - No. 1, 2, 3 & 4 Ammonia Plant Reformers. 1-65, 1-67, 3-75 and 6-75, (EQT0010, EQT0011, EQT0058 and EQT0083)									
Pollutant	Good Combustion Practices	Feasible			None				
Carbon Monoxide	Thermal Oxidation	Infeasible	2 & 3						
	Catalytic Oxidation	Infeasible	1					\$12,000	
Source ID -Ammonia Plant Carbon dioxide Vents (RLP 0013, RLP 0014, RLP 0017, and RLP 0020)									
Pollutant	Existing Equipment operations	Feasible			None				
Carbon Monoxide	Thermal Oxidation	Infeasible	2 & 3						
	Catalytic Oxidation	Infeasible	1					\$12,000	
Notes: a) Negative impacts: 1) economic, 2) environmental, 3) energy, 4) safety									

TABLE II: AIR QUALITY ANALYSIS SUMMARY

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Pollutant	Averaging Period	Preliminary Screening Concentration ($\mu\text{g}/\text{m}^3$)	Level of Significant Impact ($\mu\text{g}/\text{m}^3$)	Significant Monitoring Concentration ($\mu\text{g}/\text{m}^3$)	At the Monitoring Station		Background ($\mu\text{g}/\text{m}^3$)	Maximum Modeled Concentration ($\mu\text{g}/\text{m}^3$)	Modeled + Background Concentration ($\mu\text{g}/\text{m}^3$)	NAAQS ($\mu\text{g}/\text{m}^3$)	Modeled PSD Increment Consumption ($\mu\text{g}/\text{m}^3$)	Allowable Class II PSD Increment ($\mu\text{g}/\text{m}^3$)
					Monitored Values ($\mu\text{g}/\text{m}^3$)	Modeling results ($\mu\text{g}/\text{m}^3$)						
CO	1-hour	36.9	2000	-	NR	NR	NR	NR	NR	40,000	NR	-
	8-hour	13.0	500	575	NR	NR	NR	NR	NR	10,000	NR	-
NR = Not required.												

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Project

For this modification the facility is reconciling fugitive emissions based upon implementation of NESHAP FFFF, based upon actual component counts:

- The facility will implement an Energy Retrofit Project of the No. 1 & 2 Ammonia Plants which will allow an increase in the daily production of the No. 1 & 2 Ammonia Plants up to 1620 tons per day. CF Industries has determined that the previously permitted changes from the energy retrofit project for the No. 3 & 4 Ammonia Plants will allow for the production to be increased from 1710 up to 1785 tpd. This will raise the total ammonia production to 6810 tpd.
- CF industries considers the energy retrofit projects for all four ammonia plants to be one project. As such, the changes will increase the carbon monoxide emissions above the PSD threshold.
- CF Industries will perform a modification to the Nitric Acid Train No. 3 to allow for the production to increase to 500 M tpy, increasing the total facility production to 965.75 M tpy.
- This project along with the ammonia production increases will allow UAN 2 production to be increased to 1,500,000 tpy.
- Due to the various production increases, the startup and shutdown emissions associated with the Ammonia Plants 1, 2, 3 and 4 Hot Vents and Process Gas Vents can no longer be considered GCXVII activities as the emissions will now exceed 5 tpy.
- Due to the various production increases, the startup and shutdown emissions associated with the Nitric Acid Train 3 can no longer be considered a GCXVII activity as the emissions will now exceed 5 tpy

Proposed Permit

Permit No. 0180-00004-V4 will be the modification of the Part 70 operating permit for the Donaldsonville Nitrogen Complex. Associated with this modification, Prevention of Significant Deterioration Permit PSD-LA-744 will be proposed for Carbon Monoxide Emission increases.

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Permitted Air Emissions

Estimated emissions in tons per year are as follows:

Pollutant	Before	After	Change
PM ₁₀	707.78	709.30	+1.52
SO ₂	11.47#	11.53	+0.06
NO _x	4212.11*	3879.52*	-332.14
CO	1578.34	1606.53	+28.19
VOC	228.81	261.24	+32.43

Non - VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Ammonia	3852.10**	3850.70**	-1.40
Nitric Acid	2.64	2.64	-
Chlorine	1.20	1.20	-
Sulfuric Acid	<0.001	<0.001	-

* Contains 103.78 tpy from alternate operating scenarios.

** Includes Startup and Shutdown emissions from 3-95 - No. 4 Urea Vent (X-101)

Total emissions will decrease to 11.33 tpy as low sulfur diesel fuel becomes mandatory for EQT 112, 113, 114 and 115.

VOC LAC 33:III Chapter 51 Toxic Air Pollutants (TAPs):

Pollutant	Before	After	Change
2,2,4-Trimethylpentane	0.01	0.01	-
Benzene	0.009	0.009	-
Ethyl benzene	0.001	0.001	-
Methanol	109.14	114.07	+4.91
n-Hexane	0.013	0.013	-
Toluene	0.01	0.01	-
Xylene	0.004	0.004	-
Polynuclear Aromatic Hydrocarbons	<0.001	<0.001	-
Formaldehyde	0.005	1.185	+1.18

IV REGULATORY ANALYSIS

The applicability of the appropriate regulations is straightforward and provided in the Specific Requirements section of the proposed permit. Similarly, the Monitoring, Reporting and Recordkeeping necessary to demonstrate compliance with the applicable terms, conditions and standards are also provided in the Specific Requirements section of the proposed permit.

The changes associated with this modification request do not require a change in any regulatory applicability, except the PSD BACT limitations. No additional monitoring is required.

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Applicability and Exemptions of Selected Subject Items

The facility has three nitric acid trains. All three are applicable to 40 CFR 60 Subpart G and thus are not subject to LAC 33:III.2307, Emission Standards for the Nitric Acid Industry.

The No. 1 and 2 Urea Plant fugitives are not subject to 40 CFR 60, Subpart VV as the equipment was built and operated before the applicability date of the NSPS. The No. 3 Urea plant fugitives are exempt per 40 CFR 60.480(d). The No. 1, 2 and 4 Urea Plant fugitives are subject to 40 CFR 63, Subpart FFFF, and will follow the NSPS Subpart UU option.

Prevention of Significant Deterioration/Nonattainment Review

PSD permit PSD-LA-594 was issued to CF Industries on April 29, 1996 to construct the No. 4 Urea Plant, the No. 3 Nitric Acid Plant, and the No. 2 Urea Ammonium Nitrate plant. Part of the original design and construction included two cooling towers, one for the No.3 Nitric Acid Plant and the second for the No. 4 Urea Plant. The changes required that BACT controls be reviewed for particulate emissions from these two sources, but that review was not previously performed. This modification incorporates the results of that review from PSD Permit PSD-LA-594 (M-1). There are no physical modifications being made to these sources.

PSD permit PSD-LA-594 (M-1) was issued on June 7, 2007 to retroactively include several cooling towers. Based on the technical and environmental considerations, the Best Available Control Technology for the increases of PM₁₀ associated with the two cooling towers, (Emission Points 20-95 and 21-95) is the use of drift eliminators and proper operation of the sources. Although not considered at the time of construction to be particulate matter emitters, the cooling towers have used drift eliminators since the first day of operation and good operating practices are followed.

The facility is located within the Baton Rouge non-attainment area and is therefore subject to LAC 33:III.Chapter 22, Control of Emissions of Nitrogen Oxides. The facility has nine emission sources that are subject to the regulation and has elected to operate under a Facility-wide Averaging Plan. The plan was approved on April 18, 2005.

The facility is requesting a new PSD permit, which will be PSD-LA-744.

The facility will implement an Energy Retrofit Project of the No. 1, 2, 3 & 4 Ammonia Plants. The purpose of the project is to reduce the overall energy consumption of the Ammonia Complexes I and II by 0.35 MMBtu/ton and 0.50 MMBtu/ton of ammonia produced per complex respectively.

Major components of this upgrade include:

- replacing the combustion air preheat wheel with a more efficient plate type exchanger,
- replacing a selected number of burners with low NO_x burners,
- upgrading the synthesis gas compressor to a more efficient design,
- adding reaction volume for the ammonia converters, and
- upgrading the heat exchangers and flash vessels to improve the energy integration at a higher production capacity

The energy retrofit project will result in increased ammonia production, which will create associated emission increases from the No. 1, 2, 3 & 4 Carbon Dioxide Vents.

For this project, BACT analyses are required for CO emissions from the project.

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Process Description (Refer to Process Flow Diagrams in application)

Ammonia Production

Ammonia is formed from air, water, and natural gas in a series of process steps.

Initially, air is filtered and compressed to 600 psig, water is clarified and demineralized, and natural gas is desulfurized. Steam and natural gas are reformed in a catalytic reactor furnace to hydrogen and carbon oxides (1500°F, 500 psig, nickel catalyst). Some emissions come from the Ammonia Reformer, mainly from the natural gas firing used to maintain the temperature of the process. Unreacted gases go to the secondary reformer, compressed air is added, and further reaction occurs.

The reformed gases are purified by high and low temperature shift converters, which lower carbon monoxide (CO) levels and generate more hydrogen by converting CO to carbon dioxide (CO₂). Carbon monoxide is reduced by 95% or more across the high and low temperature shift converters. Both the high temperature shift converter and the low temperature shift converter use a catalyst to accomplish the conversion. The facility is in the process of converting all of the low temperature shift converter catalysts to an upgraded catalyst with lower methanol production as previously authorized by LDEQ. The CO₂ is removed from the process gas in an absorber column by passing it through an alkanol amine solution. CO is not very soluble in the liquid, but a small amount present. Most of the unreacted CO remains in the process gas stream leaving the absorber, and is reacted back to methane in the Methanation section. The CO₂ that was not absorbed is also reacted back to methane. Steam strippers remove CO₂ from the alkanol amine solution. When the CO₂ is stripped from the alkanol amine solution, the small amount of CO that is soluble in the alkanol amine solution is also released. This is the source of the CO in the Ammonia Plant Carbon Dioxide Vent. About 80% of the CO₂ produced in the ammonia plants is used as feed for urea production; the rest is vented or sold.

BACT analyses for CO

Source ID – Description (EQT #)

No. 1, 2, 3 & 4 Ammonia Plant Reformers. 1-65, 1-67, 3-75 and 6-75, (EQT0010, EQT0011, EQT0058 and EQT0083)

Potentially Applicable Technology

Good Combustion Practices.

Proper engineering design and operating practices to ensure complete, efficient combustion using natural gas as a clean fuel.

Potentially Applicable Technology

Thermal Oxidation.

Combustible waste gases pass over or around a burner flame into a residence chamber where oxidation of the waste gas is completed. Gases are usually required to be heated to an operating range of 1200 to 2000 F, with a typical residence time of between 0.2 and 2.0 seconds.

To reduce the carbon monoxide from the Primary Reformers would require significant energy and would generate a substantial increase of secondary pollutants. This technology is considered infeasible for the Primary Reformers

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Potentially Applicable Technology

Catalytic Oxidation

Efficient burners minimize the formation of CO by providing excess oxygen or by mixing fuel thoroughly with air. Oxidation reaction is promoted by several noble metal-enriched catalysts at high temperature.

Catalytic Oxidizers require high temperature ranges to be efficient. Catalysts are also prone to fouling by water and other compounds. An analysis indicates that Catalytic oxidation for this application would be in the range of approximately \$12,000 per ton of CO removed, which makes this technology economically infeasible.

BACT for Carbon Monoxide from the Ammonia Reformers is determined to be optimum combustion control and the use of clean burning fuels to minimize carbon monoxide emissions that occur as a result of incomplete combustion. BACT for CO is the use of natural gas, (which is the primary chemical used in an ammonia reformer to create ammonia) to limit CO emissions.

Source ID - Description (EQT #)

No. 1, 2, 3 & 4 Carbon Dioxide Vents. 5-65, 4-67, 23-75 and 24-75, (RLP0020, RLP0017, RLP0013 and RLP0014)

Potentially Applicable Technology

Existing Equipment operations

Optimum catalytic conversion of CO to CO₂ in the high and low shift converters to minimize carbon monoxide emissions that occur as a result of incomplete conversion. Continued use of an optimum liquid alkanol amine solution, or other solution to maximize the absorbing of CO₂, while minimizing CO absorption in the CO₂ Absorber.

Potentially Applicable Technology

Thermal Oxidation.

Combustible waste gases pass over or around a burner flame into a residence chamber where oxidation of the waste gas is completed. Gases are usually required to be heated to an operating range of 1200 to 2000 F, with a typical residence time of between 0.2 and 2.0 seconds.

To reduce the carbon monoxide from the Carbon Dioxide Vents would require significant energy and would generate a substantial increase of secondary pollutants. This technology is considered infeasible for the Carbon Dioxide Vents.

Potentially Applicable Technology

Catalytic Oxidation

Efficient burners minimize the formation of CO by providing excess oxygen or by mixing fuel thoroughly with air. Oxidation reaction is promoted by several noble metal-enriched catalysts at high temperature.

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Catalytic Oxidizers require high temperature ranges to be efficient. Catalysts are also prone to fouling by water and other compounds. An analysis indicates that Catalytic oxidation for this application would be in the range of approximately \$12,000 per ton of CO removed, which makes this technology economically infeasible.

BACT for Carbon Monoxide is determined to be optimum catalytic conversion of CO to CO₂ in the high and low shift converters to minimize carbon monoxide emissions that occur as a result of incomplete conversion, and continued use of an optimum liquid alkanol amine solution, or other solution to maximize the absorbing of CO₂, while minimizing CO absorption in the CO₂ Absorber.

Streamlined Equipment Leak Monitoring Program

The facility is not required to comply with a streamlined equipment leak monitoring program.

MACT Requirements

The facility has three tanks which contain UF-85. This material makes fugitives of that product to be subject to NESHAP Subpart FFFF (MON). These tanks are group 2 storage tanks and hence are not affected sources under the MON. The facility will comply with applicable heavy liquid requirements of NESHAP Subpart FFFF prior to the compliance date of May 10, 2008. These three same tanks are subject to a state MACT determination as approved by DEQ on July 14, 1994, under Certification of Compliance No.: CC92034. Requested potential Formaldehyde emissions from tanks 7-72, 2-92, and 6-95 exceeded the minimum emission rate of 260 lbs per year in 1998, requiring a MACT analysis of the emission controls. The existing scrubbers with an 80% efficiency were determined to be MACT and approved on February 3, 1998. The equipment leak components are affected sources in NESHAP Subpart FFFF and thus, are exempt from NESHAP EEEE per §63.2338(c)(1). The facility transfer operations do not meet definition of transfer rack in §63.2406.

Air Quality Analysis

Dispersion Model(s) Used: ISC-PRIME (NH₃)

Pollutant	Time Period	Calculated Maximum Ground Level Concentration	Louisiana Air Quality Standard (NAAQS)
Ammonia	8-hour	526* ug/m ³	640 ug/m ³

* Maximum off property concentration including all CF Industries sources.

Because AERMOD modeling analyses indicated concentrations of each pollutant would be below its PSD ambient significance level, refined NAAQS modeling was not required. A summary of the air quality analyses is also presented in Table II of PSD-LA-744.

General Condition XVII Activities

The facility will comply with the applicable General Condition XVII Activities emissions as required by the operating permit rule. However, General Condition XVII Activities are not subject

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to testing, monitoring, reporting or recordkeeping requirements. For a list of approved General Condition XVII Activities, refer to the Section VIII – General Condition XVII Activities of the proposed permit.

Insignificant Activities

All Insignificant Activities are authorized under LAC 33:III.501.B.5. For a list of approved Insignificant Activities, refer to the Section IX – Insignificant Activities of the proposed permit.

V. PERMIT SHIELD

No permit shield has been requested

VI. PERIODIC MONITORING

Federal regulation 40 CFR 64 Compliance Assurance Monitoring is applicable to this facility. Applicability for each pollutant, requires that the unit be subject to an emission limitation or standard and must use a control device to achieve compliance. Each of the four ammonia plant hot vents has the potential to emit uncontrolled carbon monoxide greater than the major source quantity. The CAM rule as applied to this facility states that if any of the vents is a major source after control (emits 100 tpy or more of CO), then monitoring shall take place at a minimum of four times per hour, else at least daily monitoring. Since none of the vents emit greater than 100 tpy, daily monitoring of the flame is the minimum requirement from the regulations. However, these vents do not emit on a constant basis but only upon an as needed basis to control pollutant releases through a flare. The periodic monitoring shall consist of the presence of a flame monitored by heat sensing device upon occurrence of each event. The facility is allowed to use either the installed thermocouple or the infrared sensor or by visible observation to monitor the presence of the flame every fifteen minutes while the process gas is routed for combustion during Startup conditions. Exceedance of the emission limits shall be reported to the Office of Environmental Compliance, Enforcement Division in accordance with 40 CFR Part 70 General Condition R. The facility also has eight urea granulator scrubbers that are used to control particulate matter emissions. The periodic monitoring shall consist of daily monitoring of the flow to the scrubber and a daily observation that the opacity from the exhaust stack is in compliance with the 20% opacity limitation of LAC 33:III.1311.C.

The changes associated with this modification request do not require a change in any regulatory applicability, except the PSD BACT limitations. No additional monitoring is required for this modification.

VII. GLOSSARY

Carbon Monoxide (CO) – A colorless, odorless gas, which is an oxide of carbon.

Maximum Achievable Control Technology (MACT) – The maximum degree of reduction in emissions of each air pollutant subject to LAC 33:III.Chapter 51 (including a prohibition on such emissions, where achievable) that the administrative authority, upon review of submitted MACT compliance plans and other relevant information and taking into consideration the cost of achieving such emission reduction, as well as any non-air-quality health and environmental impacts and energy requirements, determines is achievable through application of measures, processes, methods, systems, or techniques.

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Hydrogen Sulfide (H_2S) – A colorless inflammable gas having the characteristic odor of rotten eggs, and found in many mineral springs. It is produced by the reaction of acids on metallic sulfides, and is an important chemical reagent.

New Source Review (NSR) – A preconstruction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under the Clean Air Act (CAA). NSR is required by Parts C (“Prevention of Significant Deterioration of Air Quality”) and D (“Nonattainment New Source Review”).

Nitrogen Oxides (NO_x) – Compounds whose molecules consist of nitrogen and oxygen.

Organic Compound – Any compound of carbon and another element. Examples: Methane (CH_4), Ethane (C_2H_6), Carbon Disulfide (CS_2)

Part 70 Operating Permit – Also referred to as a Title V permit, required for major sources as defined in 40 CFR 70 and LAC 33:III.507. Major sources include, but are not limited to, sources which have the potential to emit: ≥ 10 tons per year of any toxic air pollutant; ≥ 25 tons of total toxic air pollutants; and ≥ 100 tons per year of regulated pollutants (unless regulated solely under 112(r) of the Clean Air Act) (25 tons per year for sources in non-attainment parishes).

PM_{10} – Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by the method in Title 40, Code of Federal Regulations, Part 50, Appendix J.

Potential to Emit (PTE) – The maximum capacity of a stationary source to emit any air pollutant under its physical and operational design.

Prevention of Significant Deterioration (PSD) – A New Source Review permitting program for major sources in geographic areas that meet the National Ambient Air Quality Standards (NAAQS) at 40 CFR Part 50. PSD requirements are designed to ensure that the air quality in attainment areas will not degrade.

Sulfur Dioxide (SO_2) – An oxide of sulfur.

Sulfuric Acid (H_2SO_4) – A highly corrosive, dense oily liquid. It is a regulated toxic air pollutant under LAC 33:III.Chapter 51.

Title V Permit – See Part 70 Operating Permit.

Volatile Organic Compound (VOC) – Any organic compound, which participates in atmospheric photochemical reactions; that is, any organic compound other than those, which the administrator of the U.S. Environmental Protection Agency designates as having negligible photochemical reactivity.